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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,319	01/21/2004	Pierre Bedard	117.2	9886
28818	7590	12/11/2007		
JEAN-CLAUDE BOUDREAU CRIQ BUILDING 8475, CHRISTOPHE-COLOMB MONTREAL, QC H2M 2N9 CANADA			EXAMINER DALEY, CLIFTON G	
			ART UNIT 2624	PAPER NUMBER
			MAIL DATE 12/11/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/760,319

**Applicant(s)**

BEDARD ET AL.

**Examiner**

Clifton G. Daley

**Art Unit**

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 0204 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 1/21/2004.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "98" has been used to designate both lights and power supply (Fig. 1 and Fig. 2). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 7-9 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Binette et al. (Hereinafter "Binette": US 6175092) in view of Jones et al. (Hereinafter "Jones": US 5085325).

**Regarding claims 1 and 12**, Binette teaches a method and analogous apparatus for testing the quality of reclaimable waste paper matter containing contaminants, said method comprising the steps of: i) directing polychromatic light onto an inspected area of said matter (**Fig 2. fluorescent tubes 98**); ii) sensing light reflected on the inspected matter to generate color image pixel data representing values of color components within a color space for pixels forming an image of said inspected area (**Fig. 2, camera 82**); and v) generating luminance-related data from said remaining image pixel (**i.e. considered pixels**) data to provide an indication of the quality of said reclaimable waste paper matter (**column 6, lines 26-32**).

Binette does not teach the limitations of: iii) comparing said image pixel data with color classification data related to at least one said contaminant to identify the pixels likely to be associated with the presence of said contaminant in said inspected area; and iv) selecting the remaining image pixel data likely to be not associated with said contaminant.

However, Jones discloses a color classification method of: iii) comparing image pixel data with color classification data related to at least one said contaminant to identify the pixels likely to be associated with the presence of said contaminant in said

inspected area (**Fig. 14, Reject and Belt**); and iv) selecting the remaining image pixel data likely to be not associated with said contaminant (**Fig. 14, Good Product**).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Jones' color classification method with Binette's testing method, the motivation being to economically sort out undesirable items (**Jones: column 1, lines 28-31**).

**Regarding claims 2 and 13**, Binette in combination with Jones teaches the method and analogous apparatus according to claim 1 above, further comprising between said steps iii) and iv), the step of: a) analyzing the image pixel data by verifying if said identified pixels form one or more groups including a sufficient number of pixels to validate said pixels identification (**Jones: Fig. 7, 41 and 42, and Fig. 8**).

**Regarding claims 3 and 14**, Binette in combination with Jones teaches the method and analogous apparatus according to claim 1 above, further comprising the step of generating a histogram of identified pixel occurrences for said contaminant to provide an indication of the presence thereof in said inspected area (**Jones: column 10, lines 7-11**).

**Regarding claim 4**, Binette in combination with Jones teaches the method according to claim 1 above, wherein said classification color data are derived from statistical distribution data representing values of color components within said color space that characterize said contaminant (**Jones: column 10, lines 7-11**).

**Regarding claim 7**, Binette in combination with Jones teaches the method according to claim 1 above, wherein said comparing step iii) included comparing said image pixel data with color classification data related to a plurality of said contaminants to identify the pixels likely to be associated with the presence of each said contaminant in said inspected area **(Jones: Fig. 14, White Rot, Stems and Belt)**.

**Regarding claim 8**, Binette in combination with Jones teaches the method according to claim 7, further comprising the step of generating a histogram of identified pixel occurrences for each said contaminant to provide an indication of the presence thereof in said inspected area **(Jones: column 10, lines 7-11)**.

**Regarding claim 9**, Binette in combination with Jones teaches the method according to claim 7, wherein said classification color data are derived from a plurality of statistical distributions representing values of color components within said color space that characterize said plurality of contaminants **(Jones: column 10, lines 7-11)**.

4. Claims 5, 6, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Binette in view of Jones as applied to claim 1 above, and further in view of Hammen (US 6532305).

**Regarding claims 5** Binette in combination with Jones teaches the method according to claim 4.

Binette in combination with Jones does not teach the limitation wherein said classification color data is derived from said statistical distribution through Bayesian

estimation of a probability that each said pixel be associated with the presence of said contaminant.

However, Hammen discloses a data classification method wherein classification data **(i.e. classification color data)** is derived from a statistical distribution through Bayesian estimation of a probability that each data point **(i.e. pixel)** be associated with the presence of said contaminant **(column 1, lines 24-31)**.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Hammen's data classification method with the classification method of Binette combined with Jones, the motivation being to provide a strong solution to the problem of classifying multi-modal data **(Hammen: column 2, lines 23-26)**.

**Regarding claim 6**, Binette in combination with Jones and in view of Hammen teaches the method according to claim 5, wherein said estimated probability is greater than a predetermined probability threshold to be used to derive said classification color data **(Hammen: column 3, lines 54-56)**.

**Regarding claim 10**, Binette in combination with Jones teaches the method according to claim 9.

Binette in combination with Jones does not teach the limitations wherein said classification color data is derived from said statistical distribution data through Bayesian estimation of a plurality of probability values that each said pixel be associated with the presence of said plurality of contaminants for selecting the statistical

distribution having the highest probably value, to identify said pixel as to be likely associated with the presence of the contaminant characterized by said selected statistical distribution.

However Hammen discloses a data classification method wherein said classification color data (**i.e. classification color data**) is derived from said statistical distribution data through Bayesian estimation of a plurality of probability values (**i.e. multi-modal**) that each data point (**i.e. pixel**) be associated with the presence of said plurality of contaminants for selecting the statistical distribution having the highest probably value (**i.e. leaf node**), to identify said pixel as to be likely associated with the presence of the contaminant characterized by said selected statistical distribution (**column 1, lines 24-31**).

**Regarding claim 11**, Binette in combination with Jones and in view of Hammen teaches the method according to claim 10, wherein each said estimated probability value is greater than a predetermined probability threshold to be used to derive said classification color data (**Hammen: column 3, lines 54-56**).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clifton G. Daley whose telephone number is 571-270-3144. The examiner can normally be reached on Monday - Friday 7:30am - 4:00pm.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached on 571-272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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12/4/2007



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